Outcomes of Admissions to the Psychogeriatric Service of Alberta Hospital, Edmonton

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ABSTRACT

Psychogeriatric services in Canada are generally at an early stage of development. We report one year's experience, with one year follow-up, of 130 consecutive admissions to an established psychogeriatric service at Alberta Hospital, Edmonton.

On admission, in addition to a history, physical examination and laboratory and radiographic tests, patients underwent several standardized assessments.

Approximately half the patients came from the community and half from long term care (LTC) institutions; 38% were admitted vian an acute care hospital. The median age was 76 years (range 34-92). Wandering and agggression were the most common reasons fro referral. Dementia (57%) and depression (19%) were the most common diagnoses. The median length of stay was 92 days (range 1-365 days) and was longer for patients admitted from LTC. The hospital mortality was 16% and subsequent mortality at one year was 5%. Approximately half of the patients were able to be discharged back to their original residence.

These results suggest that even very severly disturbed behaviour can usually be managed successfully.

Although established in other jurisdictions,[1] psychogeriatric services are comparatively new in Canada, [2] and their role is still evolving. Further development of psychogeriatrics here will likely be driven by the demographic imperative of an aging population,[2-4] coupled with an age-associated increase in the prevalence of psychiatric disease, particularly dementia, [5,6] and the recognition of the problems of the current system in dealing with elderly people with disturbed behaviour.[4,7]

Comparatively few descriptions exist however of the services provided by current psychogeriatric facilities, of the nature of their patient population and of the types and outcomes of treatment. [2,7] This paper describes 130 consecutive admissions to the psychogeriatric service of Alberta Hospital, Edmonton (AHE).

The psychogeriatric service comprises an admission unit, a discharge unit, six long term care units and an infirmary. Its mandate is to care for elderly patients referred to Alberta Hospital, and in particular it has developed a strong psychogeriatric service over the last several years. It is one of the few centres in the province to accept certified patients. The admission and discharge units each has 30 patients. Staffing includes 4-5 staff during the day (typically 3 nurses and 2 aides) with 2-3 staff per ward om the evening and night shifts. Each ward in addition has a social worker. Physiotherapy and occupational therapy are vailiable on a referral basis.

Methods

All patients admitted to the psychogeriatric service at AHE between September 1, 1986 and August 31, 1987 were studied. On admission, after completeing the usual history, physical examination and laboratory and radiographic studies, and making an intial diagnostic formulation, the admitting physician (A.B.) carried out several other assessments. These included a short Mental Status Questionnaire [8] (see also Appendix) the Reisburg Global Deterioration Scale for Primary Degenerative Dementia [9], and the Katz Index of Daily Living.[10] The admitting physician was also asked to assess whether he thought any medical problem, including adverse effects of medications, was contributing to the behavioural disturbance. Results of the initial discharge planning conference were also recorded. Diagnostic criteria were those of the Diagnostic and Statistical Manual, Third Edition, of the American Psychiatric Association.[11]

At discharge, discharge diagnosis, length of stay and discharge residence were also recorded. Ome year from admission another interview was conducted with the subject, or more often, with the primary caregiver.

Statistical analysis was carried out on the University of Alberta mainframe computer, using the SPSS-X software package. [12] The significance of differences in ordinal data were assessed using chi-square, means using T-test, and the strength of association using logistic regression analysis. Differences were considered statistically significant at $p < 0.05$.

Results

During the year under study, 126 patients were admitted once and 2 patients were admitted twice, for a total of 130 admissions of 128 patients. Slightly more than half of the patients came from the community, including their own home or that of a friend or relative(63), or boarding homes(4), while the remainder came from long term care facilities, including auxillary hospitals(8), nursing homes(39) and lodges(13). Included in the LTC group is one patient who had stayed in an acute care hospital for 477 days.

The demographic characteristics of the sample are presented in Table One, where admissions from the communiuty are compared with those from long term care. Patients from LTC tended to be older, and to less often be married. Both groups exhibited a male preponderance.

Patients were often admitted to AHE from acute care hospitals. Almost half (45%) of patients from the community were admitted via acute care, compared with 28% of those admitted from long term care. ($p<0.05$) Both groups exhibited similar lengths of stay in acute acre hospitals prior to admission. These stays were often prolonged as 43% of those admitted from the community and 41% of those admitted from LTC had stays in excess of 90 days.

The types of behaviours present on admission are outlined in Figure One, which also documents the extent to which various behaviours are tolerated. Carelessness is the most common type of disturbed behaviour, but also appears to be the best

tolerated, as it was identified as a problem in only 22% of patients, even though it was present in 50%. By contrast, aggression and wandering are both common, and neither is particularly well tolerated. Four other behaviours were identified in 20% or more of the patients referred, including interfering with other patients and with staff, messy eating and noisiness. Apart from interference with other patients and with staff, which could only occur in patients referred from LTC, noisiness was the only problem more likely to be present in those from LTC (27%) than those from the community (6%, $p<0.05$).

Dementia was the most common diagnosis, being present in 74 (57%) patients. Major affective disorders were seen in 24 patients (19%), chronic schizophrenia in 11 (9%), paranoid disorder in 6 (4%) and substance abuse disorder - as a primary diagnosis - in 6 (4%). Delirium was diagnosed in 9 patients, who are the subject of a separate report. [14]

Table Two compares the types of behaviour by diagnosis. Most problems are chronic, and referral appears to take place when either an accumulation of problems appear or become exacerbated, or when new problems supravene. Wandering is particularly associated with dementia, as is physical aggression; the latter is also commonly seen in delirium.

The treatment of these problems involves both a change in environment (in a purpose-built psychogeriatric facility) and medications. The most commonly used medication is haloperidol, followed by antidepressants and then other antipsychotics and hypnotic/sedatives. Electroconvulsive therapy was used in only

one patient during the study period. Other treatments included behaviour modification, counselling and occupational and recreational therapy. In 22 patients (17%) the major treatment carried out was treatment of an underlying medical problem. This experience is also detailed elsewhere.[13]

Figure Two illustrates the length of stay. The median length of stay was 91 days (range 1-365 days). Patients coming from the from LTC had a longer median length of stay than those from the community, and also had a higher proportion of patients still at AHE one year after admission (43% vs 19%, $p<0.05$). The increased proprotion with stays of 365 days is accounted for by patients admitted from nursing homes who were assessed as requiring auxillary hospital care when their active treatment at AHE was completed, and who remained in AHE awaiting transfer. Length of stay did not vary significantly by age. Patients with dementia were more likely to remain at AHE for one year (30/38 longstay patients) a trend which approached statistical significance. ($p=0.08$)

The outcome at discharge is detailed in Table Three, which compares the residence at discharge with the residence prior to admission. The hospital mortality at one year from admission was 16% (20/128). Approximately half the patients returned to their original residence, and three were returned home from LTC facilities. Of patients admitted from the community who did not die in hospital the institutionalization incidence however was 39% (22/56).

At one year from discharge an additional 5% of patients had died,

as seen in Table Four. Thus the cumulative mortality was 21%. Death occured from 6 to 365 days after discharge (median 139 days).

Table Four also demonstrates that the residence at discharge was fairly stable, with 84% of patients remaining in that residence at one year from discharge. Nine patients returned to AHE after initial placement had proved unsuccessful. Only one patient was newly admitted to LTC from the community.

Discussion

These data describe referrals to a psychogeriatric service at a time when policy direction in the management of elderly people with disturbed behaviour is being sought at both a national [2] and a provincial [4] level. The AHE experience is of particular interest because it describes the operation of a facility which often serves as a "court of last resort" in the management of agitated behaviour.

The experince documented herein suggests that problem behaviour in the elderly can usually be successfully managed by experinced staff in a purpose-built environment, with appropriate psychiatric and medical support. Of special note, because of its diagnostic and treatment implications, is the finding that 17% of referrals had primarily medical problems.

The care of these patients requires much longer hospital stays than is seen in patients in acute care hospitals. Of note however, is that even stays of up to one year did not preclude discharge to the community or to low level LTC. Reluctance of referring physicians to accept patients back into there care is in part overcome by AHE's willingness to re-admit patients if

continued management elsewhere is no longer possible.

Our data confirm the observation of Teri et al [14] that behavioural problems are associated with the severity of cognitive impairment and with diagnosis, but not with age, and also that wandering and agggression are predictably associated with dementia.

Many of the foregoing findings are applicable to LTC institutions, where the prevalence of problem behaviour is predictably high,[15] but where difficulties in the mangement of agitated behaviour are often encountered. In this study, as elsewhere, [15-18] it was often difficult to discharge patients admitted from LTC back to LTC facilities. This reluctance can possibly be overcome through changes in facility deisgn, in staffing and education and in appropriate medical support.

There appear to be differences between patients admitted from the community and those admitted from LTC which are of interest. In particular, the heavier reliance on admission from the community via acute care hospitals suggest a picture of a caregiver, usually a spouse, no longer able to tolerate the patient's difficlt behaviour, especially if new problems arise. At this point the patient is often brought to the local hospital, where typically a long stay ensues before transfer to AHE is sought. The possibility of an outreach service from AHE to acute care hospitals may be of value in this regard.

The impreesion provided by these data is nonetheless an optimistic one, as it suggests that successful treatment of even very severely disturbed behaviour is likely.

Table One Demographic Characteristics of Patients by Residence Prior to Admission

	From Community		From Long Term Care		Total	
Age *	N	%	N	%	N	%
To age 74	34	(51)	23	(37)	57	(44)
75-84	29	(43)	29	(46)	58	(45)
85+	4	(6)	11	(17)	15	(11)
Sex						
Male	37	(55)	32	(55)	71	(55)
Female	30	(45)	27	(45)	59	(45)
Marital Status * **						
Single	8	(12)	9	(15)	18	(14)
Married	36	(54)	13	(22)	51	(39)
Widowed	19	(28)	29	(49)	49	(38)
Divorced	4	(6)	7	(12)	11	(9)

* $p < 0.05$
**Unknown in one patient

Table Two Type of Problem Behaviour by Diagnosis

Type of Behaviour	Diagnosis				
	Dementia	Depression	Delirium	Schizophrenia	Total
Aggression	41	3	7	8	59
Wandering	35	-	2	-	37
Carelessness	19	6	3	4	32
Messy Eating	13	11	1	7	32
Noisiness	16	-	1	4	21

N=130

Table Three Discharge Residence by Residence Prior to Admission

Residence PTA	Residence at Discharge				
	Community	Long Term Care	AHE Longstay	Dead	Total
Community	34 (51%)	9 (13%)	13 (19%)	11 (16%)	67
Long Term Care	3 (5%)	26 (41%)	25 (40%)	9 (14%)	63

Table Four Residence at One Year by Discharge Residence

Discharge Residence	Residence at One Year				
	Community	Long Term Care	AHE Longstay	Dead	Total
Community	26	1	6	3	37
Long Term Care	-	29	3	2	35
AHE Longstay	-	-	37	1	38

APPENDIX

Value of the Saskatchewan Short Mental Status Questionaire in the Detection of Cognitive Impairment Consistent with Dementia

MSQ Score	Clinical Diagnosis of Dementia	
	Present	Absent
<7	60	28
7-10	2	32

Sensitivity = 0.97 (60/62)
Specificity = 0.53 (32/60)

Predicitive value of a positive test = 68%

The Saskatchewan Short MSQ is thus a senstive test of cognitive impairment, but not a specific test of dementia. False positive tests in this study were seen in delirium, depression and chronic schizophrenia. These characteristics make it a useful screening test.

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